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UNITED STATES ATLANTIC FLEET

SECOND FLEET

U. S. Naval Base
Norfolk 11, Virginia

10 November 1955

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2430 E Street, N. W.
Washington 25, D. C.

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Dear Sirs:

In accordance with the agreement made between Captain G.L. Casswell, USN, Office of the Chief of Naval Operations (DNC) and the Assistant Director for Operations, Central Intelligence Agency, the following comments on the performance aboard ship of the Morse-to-Teletype TRAK equipment which was lent to the Navy by the ~~CONFIDENTIAL~~ are submitted.

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An Engineer, Mr. W. Reid Smith-Vaniz, Jr., from CGS Laboratories, Inc., brought the equipment aboard the USS NORFOLK, supervised its installation, and subsequent operation during a ten-day period, thus ensuring the equipment a favorable environment for its shakedown.

The equipment was in almost constant use throughout the 52 days it was under observation. During this time the equipment proved to be quite stable, suffering only minor failures. In the first week, three tubes failed; one apparently was broken during shipment. The only other failure was a short circuit that developed as a result of faulty wiring technique which was found and corrected by Mr. Smith-Vaniz.

In operation, the Code Converter proved to be most efficient when the speed of transmission was constant, but would make a short string of errors every time an abrupt change in speed was made. A specific example of this occurred whenever the operator of the Bohme-keyed Fleet broadcast would interrupt his tape and make a correction by hand key. While the speed-recognition circuits of the converter were adjusting to the slower speed, the printed results would be unintelligible. These hand transmissions usually were short so they often would be finished before the converter had fully adjusted. The same deficiency also occurred when tape transmission at the original higher speed was resumed. Mr. Smith-Vaniz believes this may be corrected by re-engineering of the circuit.

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Another defect susceptible of correction was that the unit would not accept VLF signals from the RCA receiver used aboard NORTHAMPTON. A high audio beat tone is required by the converter while the RCA receiver delivered a low beat tone.

Subject to the above remarks, the equipment was found to be satisfactory. It kept itself tuned to the frequency desired, rejected static, and copied CW transmission reliably for long periods with a minimum of supervision.

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FOIAb3b1 [redacted] Chief Engineer, [redacted] FOIAb3b1
[redacted] inspected the equipment on board the NORTHAMPTON on 24 October. He expressed complete satisfaction with the good condition of the equipment and released it for return to [redacted] 25X1A
Return of the equipment was effected on 28 October.

Since the Navy has many CW circuits which may be susceptible to automatization, the opportunity to observe the operation of the equipment in a Naval environment is most appreciated.

Very truly yours,

/s/

J. A. Loyall
Commander, U.S. Navy

Copt to:
CNO (Op-30)
CINCLANTFLT
CIA (ASTDIROPS)

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